SANTA CRUZ BIOTECHNOLOGY, INC.

α-S1-casein (D-10): sc-373711

BACKGROUND

α-S1-casein, also known as CSN1S1, CSN1 or CASA, is a 185 amino acid secreted protein that is mammary gland-specific and belongs to the α-casein family. Existing as a disulfide-linked heterodimer with κ-casein, α-S1-casein plays an important role in the ability of milk to transport calcium phosphate, a family of minerals that are key components of bone and teeth. α-S1-casein exists as multiple alternatively spliced isoforms and is encoded by a gene which maps to a region on human chromosome 4 that encodes other casein family members. Chromosome 4 houses nearly 6% of the human genome and has the largest gene deserts (regions of the genome with no protein encoding genes) of all of the human chromosomes. Defects in some of the genes located on chromosome 4 are associated with Huntington's disease, Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease.

REFERENCES

1. Cavaletto, M., Cantisani, A., Giuffrida, G., Napolitano, L. and Conti, A. 1994. Human α-S1-casein like protein: purification and N-terminal sequence determination. Biol. Chem. Hoppe Seyler 375: 149-151.
2. Johnsen, L.B., Rasmussen, L.K., Petersen, T.E. and Berglund, L. 1995. Characterization of three types of human α-S1-casein mRNA transcripts. Biochem. J. 309: 237-242.
3. Chen, C.S., Bejcek, B.E. and Kersey, J.H. 1995. A mapping study of 13 genes on human chromosome bands 4q11→q25. Cytogenet. Cell Genet. 69: 260-265.
4. Fujiwara, Y., Miwa, M., Nogami, M., Okumura, K., Nobori, T., Suzuki, T. and Ueda, M. 1997. Genomic organization and chromosomal localization of the human casein gene family. Hum. Genet. 99: 368-373.
5. Rijnkels, M., Meershoek, E., de Boer, H.A. and Pieper, F.R. 1997. Physical map and localization of the human casein gene locus. Mamm. Genome 8: 285-286.
6. Murakami, K., Lagarde, M. and Yuki, Y. 1998. Identification of minor proteins of human colostrum and mature milk by two-dimensional electrophoresis. Electrophoresis 19: 2521-2527.
7. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 115450. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Csn1s1 (mouse) mapping to 5 E1.

SOURCE

α-S1-casein (D-10) is a mouse monoclonal antibody raised against amino acids 14-313 mapping at the C-terminus of α-S1-casein of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

α-S1-casein (D-10) is recommended for detection of α-S1-casein of mouse origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for α-S1-casein siRNA (m): sc-72411, α-S1-casein shRNA Plasmid (m): sc-72411-SH and α-S1-casein shRNA (m) Lentiviral Particles: sc-72411-V.

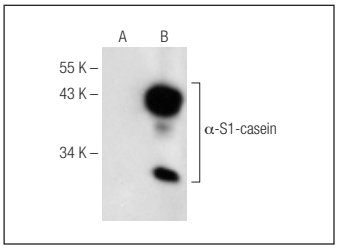
Molecular Weight of α-S1-casein: 22 kDa.

Positive Controls: α-S1-casein (m4): 293T Lysate: sc-118118.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



α-S1-casein (D-10): sc-373711. Western blot analysis of α-S1-casein expression in non-transfected: sc-117752 (**A**) and mouse α-S1-casein transfected: sc-118118 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Smirnov, A.V., Shnaider, T.A., Korablev, A.N., Yunusova, A.M., Serova, I.A. and Battulin, N.R. 2021. A hypomorphic mutation in the mouse Csn1s1 gene generated by CRISPR/Cas9 pronuclear microinjection. Vavilovskii Zhurnal Genet. Selektsii 25: 331-336.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.